

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 20, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: A. Holloway and C. Stott, Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending December 20, 2024

Nuclear Explosive Safety: Last month, a nuclear explosive safety (NES) study group transmitted the results of a recent NES evaluation to PFO. The study group assessed the proposed removal of requirements for a high explosive (HE) move window during loading and unloading of any insensitive high explosive (IHE) main charge configuration from HE transportation carts (HETC) in the ramps. As stated in its memo, the NES study group “determined the introduction of [IHE main charge configurations] outside of the HETC during [nuclear explosive] transportation introduces a new hazard with less robust safety case.” While the NES study group did not identify a scenario that leads to NES consequences, the study group determined that removal of the HE window requirement for these operations weakens positive measures relied upon for NES and documented that as an opportunity for enhancement (see 11/15/2024 report).

Earlier this month, PFO released a memo stating that the opportunity for enhancement is being closed by acceptance of the risk and that “[PFO] assumes the risk in removing the HE window requirement due to existing controls in place...” The existing administrative controls—i.e., use of walker/spotters and move authorization from the operations center—were previously evaluated as defense-in-depth for these postulated hazard scenarios. PFO elaborates on the risk acceptance by stating that “[a]s production demands increase, and the use of multi-unit environments arise, the congested space in Pantex facilities becomes a factor in supporting mission deliverables” and that “[t]his change alleviates...a burden on production...” The resident inspectors plan to continue discussions with PFO on this acceptance of risk versus considering alternatives and/or additional controls that may be available and could increase safety of these operations.

Nuclear Explosive Facilities: Last month, while conducting walkdowns of a nuclear explosive facility in maintenance mode, PXD personnel discovered that the recently installed electrostatic dissipative (ESD) floor tiles cause interface issues with certain special tooling used during operations. Specifically, PXD observed misalignment between the transportation cart and the workstand (see 11/29/2024 report). Since then, PXD personnel have been evaluating modifications of special tooling to resolve the interface issues. During discussions with the resident inspectors, PXD personnel presented some of the current proposed modifications. Initially, PXD plans to thin the load spreader plate beneath the workstand, which should decrease the height discrepancy between the two pieces of equipment. As a long-term solution, PXD intends to modify certain existing workstands to incorporate newly designed stabilizing feet, which will remove the need for a spreader plate and should alleviate the interfaces issues observed for this case. Modification for each workstand could take several weeks. The resident inspectors had a chance to examine prototypes of these new stabilizing feet and are hopeful that they will resolve some of the interface issues. The resident inspectors will continue to follow interface issues that may arise as additional nuclear explosive facilities are transitioned from existing ESD epoxy floors to the new ESD floor tiles.